

REMARKS

New claims 12 and 13 are added. No new subject matter is present. Claims 7-11 were previously withdrawn. Claims 1-6 and 12-13 remain in the case, and reconsideration and allowance of the remaining claims is requested light of the following comments.

Allowable Subject Matter

Claims 3 and 4 are indicated to contain allowable subject matter and would be allowable except for their dependence upon a rejected base claim. In keeping with the Examiner's suggestion, new claims 12 and 13 are added.

New claim 12 is written in independent form and contains all the features of original claims 1 and 3. New claim 13 depends from claim 12 and contains all the features of original claim 4.

Claims Rejections – 35 USC § 103

Claims 1, 2, 5, and 6 are rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0202134 to Kim ("Kim").

Claim 1 recites the features of a gate line and protecting pattern covering ends of the gate line. It is alleged that Kim's organic black matrix 300 (FIG. 8) is the recited protective pattern that covers ends of a gate line 130a. The applicants disagree.

There is no indication within Kim's disclosure that the organic black matrix 300 is a *protecting* pattern as recited in claim 1 (emphasis added).

Pending claims must be interpreted consistently with the specification. MPEP 2111. The applicants note that MPEP 2111 specifically approves of "reading a claim in light of the specification, to thereby interpret limitations *explicitly recited* in the claim" (emphasis added). The feature of a "*protecting pattern* covering *ends of the gate line*" is explicitly recited in claim 1.

As explained in the applicant's specification, in conventional semiconductor devices the formation of sidewall spacers on a gate line results in a very thin and imperfect spacer on the end of the gate line (page 1, lines 32-34). This very thin and imperfect spacer at the end of the gate line allows subsequent cleaning processes to dissolve a tungsten layer in the gate line (page 1, line 34 to page 2, line 4). Claim 1 of the present application solves this problem by providing a protecting pattern covering the ends of the gate line, thereby protecting layers of the gate line from being dissolved in subsequent cleaning processes.

To the contrary, the organic black matrix layer 300 does not protect the gate line 130a from anything. According to Kim, the formation of the organic black matrix 300 may actually increase the leakage of light due to the increased disorder caused by the thickness of the black organic matrix layer [para 0040].

Consequently, Kim fails to establish a *prima facie* case of obviousness for claim 1 because it does not teach or suggest the feature of a protecting pattern. MPEP 2143.03.

Furthermore, FIG. 2 and page 4, lines 17-30 of the application as filed show the location of “ends of the gate line” as recited in claim 1.

Kim FIG. 10 illustrates a plurality of columns of display cells and a plurality of rows of display cells [para. 0033]. FIG. 10 illustrates that each column of display cells is defined between adjacent data lines 150 and each row of display cells is defined between adjacent gate lines 130a [para. 0033]. As can be easily seen in FIG. 10, every gate line 130a extends perpendicular to the data lines 150, and the display cells are formed within the intersections of the gate lines 130a and data lines 150.

Kim FIG. 4 illustrates an individual display cell, since FIG. 4 displays the area between adjacent gate lines 130a and adjacent data lines 150. Each display cell includes a TFT having a source region coupled to a corresponding data line 150, a gate coupled to a corresponding gate line 130a, and a drain region coupled to a pixel electrode 7 [para. 0033]. As can easily be seen in FIG. 4, the pixel electrode 7 does not extend past the outer edges of the data lines 150. To the contrary, the gate lines 130a extend past the outer edges of the data lines 150.

Contrary to the above feature of claim 1, Kim’s FIG. 8 is a cross-sectional diagram taken along the line D-D’ of FIG. 4 [para. 0040]. In other words, Kim’s FIG. 8 illustrates a cross-sectional region between adjacent gate lines 150. As is easily seen from Kim’s FIG. 4, the gate lines 130a extend perpendicularly from the line D-D’. Furthermore, Kim FIG. 8 shows that the alleged protective layer is in contact with the pixel electrode 7. Kim FIG. 8 shows that the pixel electrode 7 does not extend beyond the boundaries of adjacent data lines 150.

Consequently, whatever Kim means in paragraph 0040 by “end portions of the gate lines 130a,” Kim FIG. 8 only illustrates a region between adjacent data lines 150, and the regions beyond the adjacent data lines 150 are not illustrated. The “ends of the gate line” as recited in claim 1 are therefore beyond the region illustrated by Kim FIG. 8. Thus, Kim’s vaguely defined “end portions of the gate lines 130” (para. 0040) fail to teach the feature of a protective pattern covering ends of the gate line.

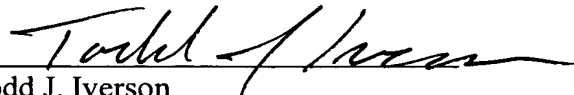
Consequently, Kim also fails to establish a *prima facie* case of obviousness for claim 1 because it does not teach or suggest the feature of a protecting pattern covering ends of the gate line. MPEP 2143.03.

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-6 and 12-13 of the application as amended is requested. Please telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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